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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,732

03/14/2006

Akihiko Nishio

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52989

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12/21/2010

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EXAMINER

CASCA, FRED A

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,732	<b>Applicant(s)</b> NISHIO ET AL.	
	<b>Examiner</b> FRED A. CASCA	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 and 15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed January 29, 2010 has been entered.

### **IDS**

2. The IDS submitted on January 15, 2010 is missing page 2. The IDS document on the top of page 1 recites "sheet 1 of 2." However, only page one of the IDS has been submitted. The applicant is requested to address the IDS page 2 in the next response. Further, the IDS document filed on January 15, 2010, states a document that includes an English translation of the abstract of JP 2003-169036. However, the applicant has not submitted the English abstract for this document. The applicant is requested to submit the English translation of the abstract in order to be considered by the examiner.

### **Priority**

3. The Examiner has acknowledged the Applicant's claim for foreign priority under 35 U.S.C. § 119, however, a certified and perfected copy of the priority document, Japanese Application No. 2003-288162, 08/06/2003 NO, has not been submitted to the USPTO. It is respectfully requested that a certified and perfected copy of the priority document be submitted in order to overcome references Baum et al (US 2005/0286547 A1), Sung et al (US 2005/0105589 A1) and Mukai (US 2005/0232135 A1). References Baum, Sung and Mukai

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disclose the main concepts of applicant's claimed invention and can be used as a potential reference in the rejection of applicant's claimed invention.

### **Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (US 2002/0119781 A1) in view of Hwang et al (US 2005/0025039 A1).

Referring to claim 14, Li discloses a wireless communication apparatus (abstract, Par. 39, "subscribers") comprising:

a receiving section that receives information related to a number of subcarriers from a base station (Par. 37 and Par. 39, line 1-2 and lines 8-10, "each base station periodically broadcasts pilot OFDM symbols to every subscriber", Par. 41, lines 1-3, "each subscriber measures the SINR of each subcarrier", note that the "SINR" is the related information to subcarriers. Further note that in OFDM communication system, a transmitter intrinsically informs a receiver information about the number subcarriers being used in the communication between the transmitter and the receiver);

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an extracting section that extracts the number of subcarriers from the received information (Par. 24, lines 3-5, "selects multiple subcarriers with good performance", note that SINR provides CQI), and

a transmission section that transmits channel quality indicators (Par. 24, lines 5-9, "feedback the information on these candidate subcarriers to the base station", note that SINR is the same as channel quality indicators ).

Li is silent on whether or not the number of CQIs matches the number of subcarriers, as claimed.

Hwang discloses a transmission section that transmits a number of CQIs such that the number matches the number of subcarriers (Par. 30, particularly lines 7-14, "the MSS detects the CINR of each pilot subcarrier", note that the detection of CINR of each subcarrier is equivalent to a CINR for each subcarrier and thus the number of CINR matches the number of subcarrier. Further note that a mobile station (MSS) determines CINR (CQIs) of each subcarrier and then feedbacks the CINRs of the corresponding subcarriers based on the CQIs, thus the number CINRs must match the number of subcarriers).

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify the invention of Li in the format claimed by incorporating the teachings of Hwang, for the purpose of providing feedback for every individual subcarrier and thereby implementing the appropriate modulation schemes for every individual subcarrier, and thus, providing efficient communication subcarriers.

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Claim 15 recites features analogous to the features of claim 14. Thus, it is rejected for the same arguments as set forth in the rejection of claim 14 (see the rejection of claim 14 above).

### **Response to Arguments**

Applicant's arguments with respect to claims 14-15 have been considered but are not moot in view of new grounds of rejection.

### **Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard, can be reached at (571) 272-7603. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Fred A. Casca/

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Examiner, Art Unit 2617

/Patrick N. Edouard/

Supervisory Patent Examiner, Art Unit 2617